5620 CW

PCT09

RAW SEQUENCE LISTING DATE: 06/12/2002
PATENT APPLICATION: US/09/744,100B TIME: 14:37:31

Input Set : A:\BB1174 US PCT seqlist01.txt
Output Set: N:\CRF3\06122002\I744100B.raw

p-6

<110> APPLICANT: Cahoon, Rebecca
Gutteridge, Steven
Lee, Jian-Ming
McGonigle, Brian
Rafalski, Antoni

<120> TITLE OF INVENTION: Ornithine Biosynthesis Enzymes

<130> FILE REFERENCE: BB-1174

<140> CURRENT APPLICATION NUMBER: 09/744,100B

C--> <141> CURRENT FILING DATE: 2002-04-04

<150> PRIOR APPLICATION NUMBER: PCT/US99/15931

<151> PRIOR FILING DATE: 1999-07-14

<150> PRIOR APPLICATION NUMBER: 60/093,209

<151> PRIOR FILING DATE: 1998-07-17

<160> NUMBER OF SEQ ID NOS: 12

<170> SOFTWARE: Microsoft Office 97

<210> SEQ ID NO: 1

<211> LENGTH: 1201

<212> TYPE: DNA

<213> ORGANISM: Zea mays

<400> SEQUENCE: 1

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tgcaagcccc cttgccgccc ctacttgccg tcgcagccgc ctccgcatct ccgccacatc 180
cacggctgcg ccgtctcctt cgtcggctgc cgctgccacc gcgtcgctga gtcgagtgga 240
cgtgctctcg gaggcgctcc cttttattca gcgattcaaa ggcaagacgg tggtggtcaa 300
gtacggcggt gcggcgatga agtccccgga gctgcaggcg tccgtgatcc gcgatctcgt 360
gctgctctcc tgcgtcggcc tccgccccgt gcttgttcac ggcggcggtc cggagattaa 420
ttcctggctg ctgcgcgtcg gcgtcgagcc gcagttccgc gacggcctcc gcgtcacgga 480
cgcgctcacc atggaggtcg tcgagatggt gctagtcggg aaggtcaaca aaaaccttgt 540
ttccctcatc aacatcgcgg gaggcaccgc cattggtctg tgcggcaagg acgcgcgcct 600
tatcaccgct cgcccgtctc caaatgcagc ggcgctggga ttcgtcggcg aggtttcgcg 660
cgtggacgcc accgtcctcc atcccatcat cgccgcgggc catatcccgg ttatcgccac 720
cgttgccgcc gacgagactg ggcaagccta taacatcaat gctgatacgg cggctggcga 780
gattgccgct gccgtgggcg ccgagaagct gctgttgctc acagatgtgt ctggcatttt 840
ggcggaccgt aatgaccctg ggagcctggt gaaggtggtc gacattgctg gggtgcggaa 900
gatggtggct gacgggaagg tagctggtgg gatgataccc aaggtggagt gttgtgttca 960
cgcccttgca caaggtgtac acaccgcaag tatcattgat gggcgtgttc cacactctct 1020
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atgccttcat ggtattttcc tgtgcctctt ttctcatatt gttgtgtttt atggctatgt 1140
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a 1201

<210> SEQ ID NO: 2

<211> LENGTH: 345

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PATENT APPLICATION: US/09/744,100B TIME: 14:37:31

Input Set : A:\BB1174 US PCT seqlist01.txt
Output Set: N:\CRF3\06122002\I744100B.raw

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57 <213> ORGANISM: Zea mays
59 <400> SEQUENCE: 2
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63 Ser Pro Pro Pro Ser Gly Pro Thr Leu Ser Ser Asn His Ala Ser Pro
64              20                  25                  30
66 Leu Ala Ala Pro Thr Cys Arg Arg Ser Arg Leu Arg Ile Ser Ala Thr
67          35                  40                  45
69 Ser Thr Ala Ala Pro Ser Pro Ser Ser Ala Ala Ala Ala Thr Ala Ser
70      50                  55                  60
72 Leu Ser Arg Val Asp Val Leu Ser Glu Ala Leu Pro Phe Ile Gln Arg
73  65                  70                  75                  80
75 Phe Lys Gly Lys Thr Val Val Val Lys Tyr Gly Gly Ala Ala Met Lys
76                  85                  90                  95
78 Ser Pro Glu Leu Gln Ala Ser Val Ile Arg Asp Leu Val Leu Leu Ser
79              100                 105                 110
81 Cys Val Gly Leu Arg Pro Val Leu Val His Gly Gly Gly Pro Glu Ile
82          115                 120                 125
84 Asn Ser Trp Leu Leu Arg Val Gly Val Glu Pro Gln Phe Arg Asp Gly
85      130                 135                 140
87 Leu Arg Val Thr Asp Ala Leu Thr Met Glu Val Val Glu Met Val Leu
88 145                 150                 155                 160
90 Val Gly Lys Val Asn Lys Asn Leu Val Ser Leu Ile Asn Ile Ala Gly
91                  165                 170                 175
93 Gly Thr Ala Ile Gly Leu Cys Gly Lys Asp Ala Arg Leu Ile Thr Ala
94              180                 185                 190
96 Arg Pro Ser Pro Asn Ala Ala Ala Leu Gly Phe Val Gly Glu Val Ser
97          195                 200                 205
99 Arg Val Asp Ala Thr Val Leu His Pro Ile Ile Ala Ala Gly His Ile
100     210                 215                 220
102 Pro Val Ile Ala Thr Val Ala Ala Asp Glu Thr Gly Gln Ala Tyr Asn
103 225                 230                 235                 240
105 Ile Asn Ala Asp Thr Ala Ala Gly Glu Ile Ala Ala Ala Val Gly Ala
106                 245                 250                 255
108 Glu Lys Leu Leu Leu Leu Thr Asp Val Ser Gly Ile Leu Ala Asp Arg
109             260                 265                 270
111 Asn Asp Pro Gly Ser Leu Val Lys Val Val Asp Ile Ala Gly Val Arg
112         275                 280                 285
114 Lys Met Val Ala Asp Gly Lys Val Ala Gly Gly Met Ile Pro Lys Val
115     290                 295                 300
117 Glu Cys Cys Val His Ala Leu Ala Gln Gly Val His Thr Ala Ser Ile
118 305                 310                 315                 320
120 Ile Asp Gly Arg Val Pro His Ser Leu Leu Leu Glu Ile Leu Thr Asp
121                 325                 330                 335
123 Glu Gly Thr Gly Thr Met Ile Thr Gly
124             340                 345
126 <210> SEQ ID NO: 3
127 <211> LENGTH: 1186
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PATENT APPLICATION: US/09/744,100B TIME: 14:37:31

Input Set : A:\BB1174 US PCT seqlist01.txt
Output Set: N:\CRF3\06122002\I744100B.raw

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128 <212> TYPE: DNA
129 <213> ORGANISM: Oryza sativa
131 <220> FEATURE:
132 <221> NAME/KEY: unsure
133 <222> LOCATION: (613)
134 <223> OTHER INFORMATION: n = A, C, G, or T
136 <400> SEQUENCE: 3
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138 ctctttcctc ccatccacgc gggtgtctag ccccgctccg ggtcccaacc acgcaaagcc  120
139 catcgccgcc tctcccgccc ctcgacgctg cctccgtctc gccgtcacat ccgccgcggc  180
140 gccggctgct tcgtcggcgg aggcggcggc ggcgctgagc cgcgtggatg tgctctcaga  240
141 ggcgctcccc ttcatccagc gcttcaaggg gaagaccgtg gtggtgaagt acggcggcgc  300
142 ggcgatgaag tcgccggagc tccaggcttc agtgatccgc gacctggtcc tcctctcgtg  360
143 cgtcggcctc caccccgtgc tcgtccacgg cggcgggccc gagatcaact cctggctgct  420
144 ccgcgtcggc gtcgagccgc agttccggaa cggcctccgc gtcactgacg cgctcaacat  480
145 ggaggtcgtc gagatggtgc tcgtccgcaa ggtcaacaaa gaactcctct ccctcatcaa  540
146 actcccgggg gggagcgccg taagtctctg ttggaaggaa gctcgcctcc tcaacgagcg  600
147 gccctccccg aangaaaagg gccttcggtt tgtcggcggg gtctggcgcg tggacgccac  660
148 cgtcctccac ccaatcatcg cctccggtca catcccggtc atcgccactg tgggcgccga  720
149 cgagaccggg caggcctaca acatcaacgc tgacacggcg gccggcgaga tcgccgccgc  780
150 ggtcggcgcg gagaagctgt tgctgctcac agatgtgtct ggaattctgg ccgaccgtaa  840
151 tgaccccggg agtctggtga aagagatcga cattgctggg gtgcggcaga tggtggccga  900
152 cgggcaggta gctggtggga tgataccgaa ggtggaatgc tgcgtgcgtg ccctcgcaca  960
153 gggcgtgcac actgcaagca tcatcgatgg gcgtgtcccg cactcgttgc tgctcgagat 1020
154 tctcacagat gagggcactg gcactatgat cactggctga ggtgattcat cccgtcgtgg 1080
155 tattctccgg tgcctctctt ctcatactgt aatgtaattt gcatttgata tgcctcatga 1140
156 ttgcaataag aattgtattc ctcaaaaaaa aaaaaaaaaa aaaaaa               1186
158 <210> SEQ ID NO: 4
159 <211> LENGTH: 343
160 <212> TYPE: PRT
161 <213> ORGANISM: Oryza sativa
163 <220> FEATURE:
164 <221> NAME/KEY: UNSURE
165 <222> LOCATION: (195)
166 <223> OTHER INFORMATION: Xaa = ANY AMINO ACID
168 <400> SEQUENCE: 4
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170   1               5                  10                  15
172 Thr Arg Val Ser Ser Pro Ala Pro Gly Pro Asn His Ala Lys Pro Ile
173              20                  25                  30
175 Ala Ala Ser Pro Ala Pro Arg Arg Cys Leu Arg Leu Ala Val Thr Ser
176          35                  40                  45
178 Ala Ala Ala Pro Ala Ala Ser Ser Ala Glu Ala Ala Ala Ala Leu Ser
179      50                  55                  60
181 Arg Val Asp Val Leu Ser Glu Ala Leu Pro Phe Ile Gln Arg Phe Lys
182  65                  70                  75                  80
184 Gly Lys Thr Val Val Val Lys Tyr Gly Gly Ala Ala Met Lys Ser Pro
185                  85                  90                  95
187 Glu Leu Gln Ala Ser Val Ile Arg Asp Leu Val Leu Leu Ser Cys Val
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RAW SEQUENCE LISTING DATE: 06/12/2002
PATENT APPLICATION: US/09/744,100B TIME: 14:37:31

Input Set : A:\BB1174 US PCT seqlist01.txt
Output Set: N:\CRF3\06122002\I744100B.raw

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188              100                 105                 110
190 Gly Leu His Pro Val Leu Val His Gly Gly Gly Pro Glu Ile Asn Ser
191          115                 120                 125
193 Trp Leu Leu Arg Val Gly Val Glu Pro Gln Phe Arg Asn Gly Leu Arg
194      130                 135                 140
196 Val Thr Asp Ala Leu Asn Met Glu Val Val Glu Met Val Leu Val Arg
197 145                 150                 155                 160
199 Lys Val Asn Lys Glu Leu Leu Ser Leu Ile Lys Leu Pro Gly Gly Ser
200                 165                 170                 175
202 Ala Val Ser Leu Cys Trp Lys Glu Ala Arg Leu Leu Asn Glu Arg Pro
203              180                 185                 190
205 Ser Pro Xaa Glu Lys Gly Leu Arg Phe Val Gly Gly Val Trp Arg Val
206          195                 200                 205
208 Asp Ala Thr Val Leu His Pro Ile Ile Ala Ser Gly His Ile Pro Val
209      210                 215                 220
211 Ile Ala Thr Val Gly Ala Asp Glu Thr Gly Gln Ala Tyr Asn Ile Asn
212 225                 230                 235                 240
214 Ala Asp Thr Ala Ala Gly Glu Ile Ala Ala Ala Val Gly Ala Glu Lys
215                 245                 250                 255
217 Leu Leu Leu Leu Thr Asp Val Ser Gly Ile Leu Ala Asp Arg Asn Asp
218              260                 265                 270
220 Pro Gly Ser Leu Val Lys Glu Ile Asp Ile Ala Gly Val Arg Gln Met
221          275                 280                 285
223 Val Ala Asp Gly Gln Val Ala Gly Gly Met Ile Pro Lys Val Glu Cys
224      290                 295                 300
226 Cys Val Arg Ala Leu Ala Gln Gly Val His Thr Ala Ser Ile Ile Asp
227 305                 310                 315                 320
229 Gly Arg Val Pro His Ser Leu Leu Leu Glu Ile Leu Thr Asp Glu Gly
230                 325                 330                 335
232 Thr Gly Thr Met Ile Thr Gly
233              340
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236 <211> LENGTH: 1204
237 <212> TYPE: DNA
238 <213> ORGANISM: Glycine max
240 <400> SEQUENCE: 5
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242 cccaaccaaa ccccaaaacc aactcaccac tagccacgct ttcccttcca ctcgcctccg  120
243 ccaccgcgcc atttccgcgg tggcgaacgc ggcgcaacct ccactcgccg ccgccactgc  180
244 caccgagggt cagtaccgag tcgatgtgct ctcggagtcg ctcccccttca tccagaaatt  240
245 ccgcggcaaa accatcgtcg tcaagtacgg cggcgccgcc atgaagtccc cggagctcca  300
246 ggcctccgtg atcaacgacc ttgtcctcct ctcctgcgtc ggcctccgcc ccgtcctggt  360
247 ccacggcggc ggccccgaga tcaactcctg gctcggccgc ctcaacatcc ccgccgtctt  420
248 ccgcgacggc ctccgcgtca ccgacgccga caccatggag atcgtctcca tggtcctcgt  480
249 cggaaaagtc aacaaaaccc tagtttctct aattaacaag gccggcgcca ccgccgtcgg  540
250 cctctctggc atggacggcc gcctcctcac cgcccgcccc gctcccaagg ccgccgacct  600
251 cggctacgtc ggcgaggtcg cacgcgtcga tcccgccgtc ctccgctccc taatcgacac  660
252 cagccacatc cccgtcgtca cctccgtcgc cgccgatgaa tccggacagc cctacaacat  720
253 caacgccgac accgtcgccg gagaattggc agcgtcgctc ggcgcggaga agctgattct  780
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RAW SEQUENCE LISTING DATE: 06/12/2002
PATENT APPLICATION: US/09/744,100B TIME: 14:37:31

Input Set : A:\BB1174 US PCT seqlist01.txt
Output Set: N:\CRF3\06122002\I744100B.raw

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gctgaccgat gtggcgggaa ttctggaaga tcggaacgac cctgacagct tggtgaagaa  840
gattgacata aaaggagtga agaaaatgat ggaagatgga aaagttggtg gtggaatgat  900
acctaaggtt aattgttgcg ttaggtcctt ggcgcaaggg gttattacag cgagtattat  960
tgatggtagg gttccgcatt ctttgttgct tgagattttg actgatgaag gtgctggaac 1020
tatgataact ggataagttt atttatttat ggtgtttgga ttttttcttt tcaatcaagc 1080
cttgagttga ggttgcattg cagcacttgt tttgttagag attggtgatt gtttttaagt 1140
gcgtgtaatg tgagagatgg ttgaattgaa ttgaatgttt cagaaaaaaa aaaaaaaaaa 1200
aaaa                                                              1204
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<211> LENGTH: 342
<212> TYPE: PRT
<213> ORGANISM: Glycine max
<400> SEQUENCE: 6
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Pro Phe Pro Thr Lys Pro Gln Asn Gln Leu Thr Thr Ser His Ala Phe
             20                  25                  30
Pro Ser Thr Arg Leu Arg His Arg Ala Ile Ser Ala Val Ala Asn Ala
         35                  40                  45
Ala Gln Pro Pro Leu Ala Ala Ala Thr Ala Thr Glu Gly Gln Tyr Arg
     50                  55                  60
Val Asp Val Leu Ser Glu Ser Leu Pro Phe Ile Gln Lys Phe Arg Gly
 65                  70                  75                  80
Lys Thr Ile Val Val Lys Tyr Gly Gly Ala Ala Met Lys Ser Pro Glu
                 85                  90                  95
Leu Gln Ala Ser Val Ile Asn Asp Leu Val Leu Leu Ser Cys Val Gly
            100                 105                 110
Leu Arg Pro Val Leu Val His Gly Gly Gly Pro Glu Ile Asn Ser Trp
        115                 120                 125
Leu Gly Arg Leu Asn Ile Pro Ala Val Phe Arg Asp Gly Leu Arg Val
    130                 135                 140
Thr Asp Ala Asp Thr Met Glu Ile Val Ser Met Val Leu Val Gly Lys
145                 150                 155                 160
Val Asn Lys Thr Leu Val Ser Leu Ile Asn Lys Ala Gly Ala Thr Ala
                165                 170                 175
Val Gly Leu Ser Gly Met Asp Gly Arg Leu Leu Thr Ala Arg Pro Ala
            180                 185                 190
Pro Lys Ala Ala Asp Leu Gly Tyr Val Gly Glu Val Ala Arg Val Asp
        195                 200                 205
Pro Ala Val Leu Arg Ser Leu Ile Asp Thr Ser His Ile Pro Val Val
    210                 215                 220
Thr Ser Val Ala Ala Asp Glu Ser Gly Gln Pro Tyr Asn Ile Asn Ala
225                 230                 235                 240
Asp Thr Val Ala Gly Glu Leu Ala Ala Ser Leu Gly Ala Glu Lys Leu
                245                 250                 255
Ile Leu Leu Thr Asp Val Ala Gly Ile Leu Glu Asp Arg Asn Asp Pro
            260                 265                 270
Asp Ser Leu Val Lys Lys Ile Asp Ile Lys Gly Val Lys Lys Met Met
        275                 280                 285
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RAW SEQUENCE LISTING ERROR SUMMARY DATE: 06/12/2002
PATENT APPLICATION: **US/09/744,100B** TIME: 14:37:32

Input Set : **A:\BB1174 US PCT seqlist01.txt**
Output Set: **N:\CRF3\06122002\I744100B.raw**

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:3; N Pos. 613
Seq#:4; Xaa Pos. 195
Seq#:7; N Pos. 492,493,494,495,496,497,498,499,500,501,502,503,504,505,506
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Seq#:7; N Pos. 522,523,524,525,526,527,528,529,530,531,532,533,534,535,536
Seq#:7; N Pos. 537,538,539,540,541,542
Seq#:8; Xaa Pos. 133,144,145,146,147,148,149,150,151,152,153,154,155,156
Seq#:8; Xaa Pos. 157,158,159,160
Seq#:12; Xaa Pos. 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,24
Seq#:12; Xaa Pos. 25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43
Seq#:12; Xaa Pos. 44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,60,61,63,64
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Seq#:12; Xaa Pos. 228,229,230,232,236,239,247,251,254,255,261,263,267,271
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